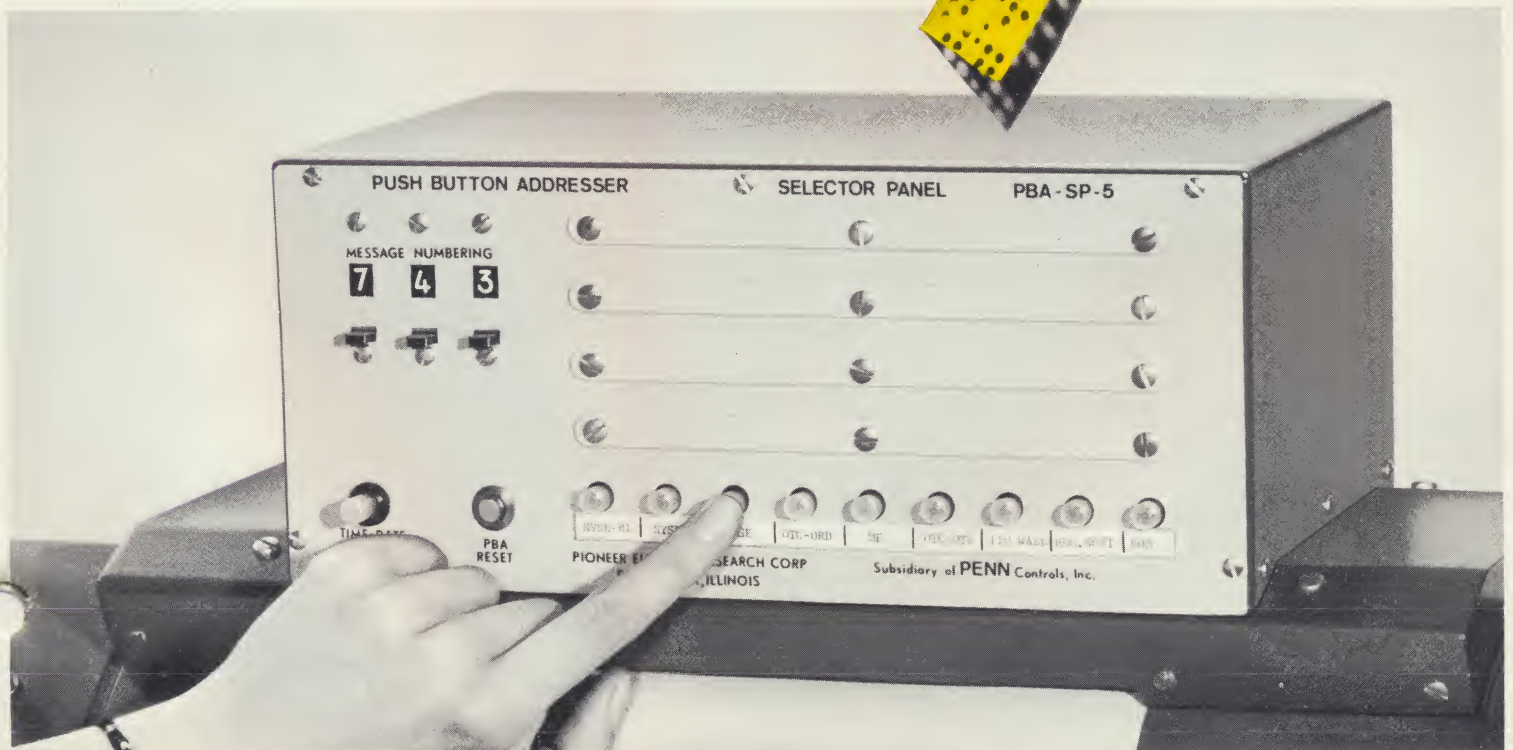


PUSH-BUTTON ADDRESSER FOR TELETYPEWRITER SYSTEMS

The Pioneer Electric & Research
Corporation, 743 Circle Avenue,
Forest Park, Illinois 60130
Subsidiary of **PENN** Controls, Inc.



These simple push buttons eliminate addressing errors.



ELIMINATE TELETYPEWRITER ADDRESSING ERRORS

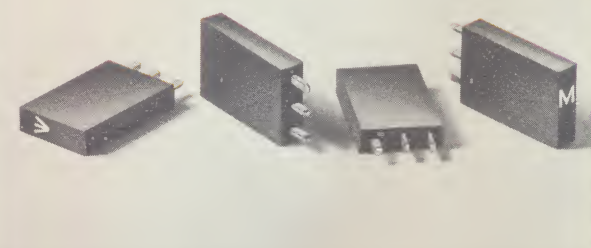


The new PBA Push-Button Addresser, as the name implies, enables the operator to address a teletypewriter message by merely pushing *one* button. Each sequence is controlled by a single push button and is also supervised by a lamp, which lights upon selection and extinguishes when readout of the sequence is completed.

Any communications system which uses standard formats repeatedly, such as addresses or short-message forms, can use the new PBA with excellent results.

SUGGESTED USERS—stockbrokers, airlines, any private network teletypewriter communications system, government and military. The new PBA will pay for itself by eliminating misdirected messages requiring special handling and expensive delay.

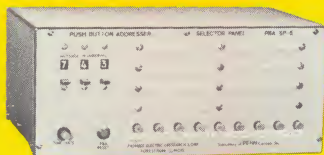
With the Pioneer PBA, plug-in chips, shown here, are used for a most convenient method of message composition. Programming the PBA is accomplished by merely inserting these plug-in chips into the provided rows of mating sockets.



The front surface of every chip is imprinted with the letter, numeral or symbol which will be encoded by that chip. This visual presentation of the programmed address avoids error—provides easy verification of repeated address at all times. No deterioration is sustained by the chips during successive or repeated transmissions. Addresses or brief copy from 1 to 32 characters in length can be composed as required by operator using these plug-in chips.



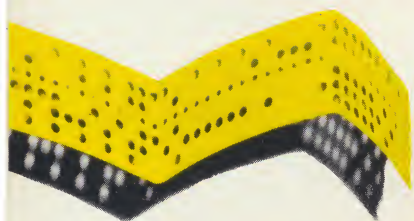
The PBA is operated from a push-button selector panel magnetically mounted on the teletypewriter. The basic unit provides 9 address or message lines. Add-on units can be plugged in to increase the number of lines available to 45 in increments of 9 lines or addresses. The PBA is entirely solid state and, consequently, reliable and of long life. Standard interfacing to teletypewriter equipment is available. For local tape preparation, a reperforator is required to accept both the PBA and keyboard signals. Hookup is simple—can be done by anyone.



The Push-Button Selector Panel mounts conveniently on the teletypewriter. Unit contains push buttons for up to 45 addresses of from 1 to 32 characters in length.



The PBA power supply, common equipment chassis and programmer are contained in a cabinet which measures 21-5/8" wide, 13-1/6" high, and 13-3/4" deep. This cabinet can be remotely located; standard connecting cable is 50 feet long, power requirement 110 V. AC.



Model PBA-5 for 5-level Baudot
Model PBA-8 for 8-level ASCII

The PBA can be installed in minutes with absolutely no interruption in service. Bulletin 67-506 pictures details of simple plug-in installation. Demonstrations can be arranged.

The Pioneer Electric & Research Corporation
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Subsidiary of **PENN** Controls, Inc.

N. W. Alexander
and Associates

P. O. BOX 2561 UPPER UNION BRANCH, SCHENECTADY, N. Y. 12309

February 13, 1967

Systems Consultant
Box 1546
Poughkeepsie, New York

Attention: T. Nelson

Subject: Digitized Drafting Table

Gentlemen:

Here is the literature you requested on digitized drafting table.
NEW and unbeatable for precision layout and drafting.

You may find it difficult to choose a table and associated equipment for a specific application or group of applications. In such a case you will find it advantageous to discuss your applications with a representative of Data Technology.

Complete and mail the enclosed card today. I'll contact you in the near future.

Don't hesitate to call on me any time.

Sincerely yours,

N. W. Alexander

N.W. Alexander
N.W. Alexander and Associates

NWA:fsa

Enc:

Installation Instructions for

**THE PIONEER PBA PUSHBUTTON ADDRESSER
WHEN USED FOR THE PREPARATION OF
FIXED FORMAT ADDRESSES
IN THE FORM OF PUNCHED TAPE**



The Pioneer Electric and Research Corporation

Subsidiary of **PENN** Controls, Inc.

743 Circle Avenue • Forest Park, Illinois 60130 • AREA CODE (312) 771-8242

The installation procedure shown is for use of the Pioneer PBA with a Model 28 ASR Teletypewriter arranged as per A. T. & T. Long Lines Division, Eastern Area Drawing EA 20889 SD 013 figure 5. This arrangement or an equivalent interface is required for proper "off-line" operation of the PBA with various models of reperforator equipment for tape preparation from electrical signals. For "on-line" operation alternate interface arrangements must be provided.

The PBA consists of the two components pictured below. The top picture is the Cabinet containing the common equipment, the power supply and programmer. For simplicity we will refer to this unit as the Cabinet, which is usually placed in any out-of-the-way location. The hook-up cables are fifty feet long so that you can place the Cabinet in another room, if desired. The bottom picture is the Selector Unit, which mounts on top of the Teletypewriter, usually on the right side. These two components are ready to hook up as soon as they are unpacked from the shipping cases. No pre-wiring or modification of any kind is required. The PBA can be installed by anyone.

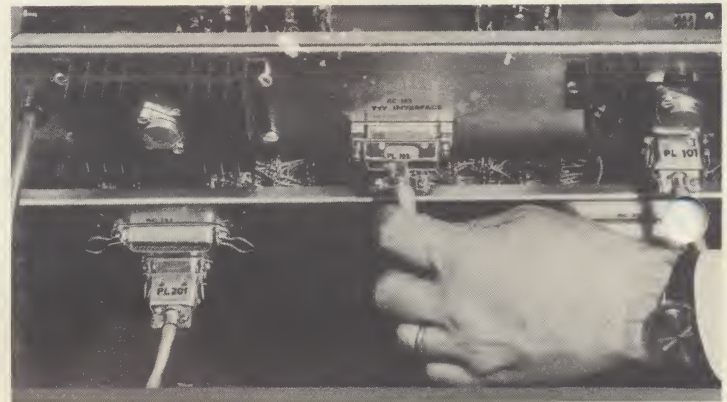


Cabinet
Dimensions
21 $\frac{5}{8}$ " Wide
13 $\frac{1}{16}$ " High
14 $\frac{3}{4}$ " Deep



Open the top of the Cabinet by placing your index fingers in the holes provided on both sides of the Cabinet lid. Give a sharp upward pull and at the same time exert pressure with your thumbs. The catches will be released, allowing the lid to be raised.

STEP 1



STEP 2

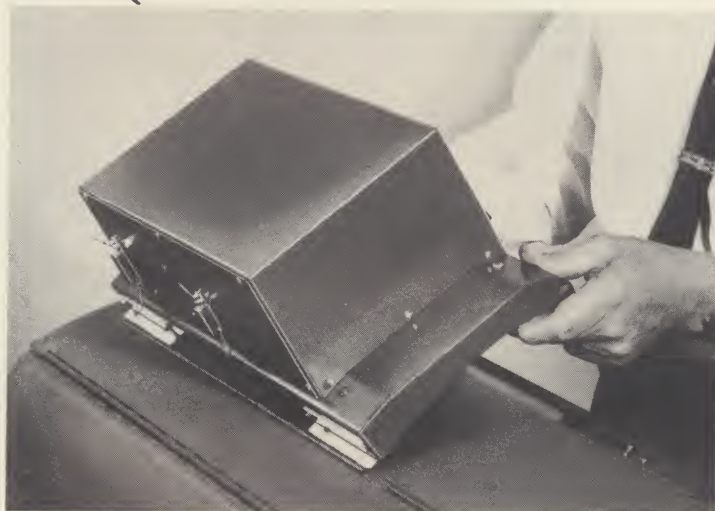
With the lid open, you are now ready to connect the cables. Take cable tagged "Interface" and having plugs PL102 and PL601. From the back of the Cabinet insert the cable end with plug marked PL102 and plug it into receptacle marked RC102. Using screw driver tighten screws on plug to complete installation. It is impossible to insert the plugs into the receptacles incorrectly because they will not fit mechanically. Take cable tagged "Selector" and having plugs PL303 and PL402 and insert cable end with plug marked PL303 through the opening in the back of Cabinet and plug into receptacle RC303, which is on the right side of the Cabinet unit but in the bottom section. This is the programmer unit with format chips visible from the front of the Cabinet. Secure the plug in receptacle by snapping locking rings from receptacle to plug in same manner as plug PL101 which is factory installed. If the Numerical Sequence Applique is included in your equipment take cable tagged "Numerical" and having plugs PL201 and PL401. Install cable end PL201 in the same manner as above by plugging into receptacle RC201. Receptacle RC203 is for the Time and Date Applique which if ordered is furnished with a special unit and separate installation instructions Bulletin 67-508.

PUSHBUTTON ADDRESSER

Let the entire unit down easily onto the top of the Teletypewriter.

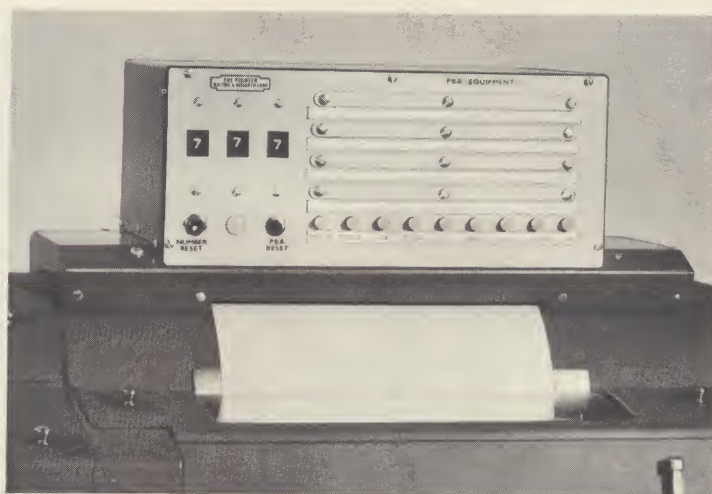
Four powerful magnets in the bottom of the Selector hold it securely to the top of Teletypewriter. The lugs are adjustable in order to allow you to line them up with the slots in the hinge. Use a screw driver to loosen the lug assembly to permit sideways movement to align if necessary. When lugs are in place be sure to re-tighten assembly screws.

STEP 4



STEP 3

Place the selector in the manner pictured on the top of the Teletypewriter. The lugs (A) must be inserted into the gaps of the hinge (B).

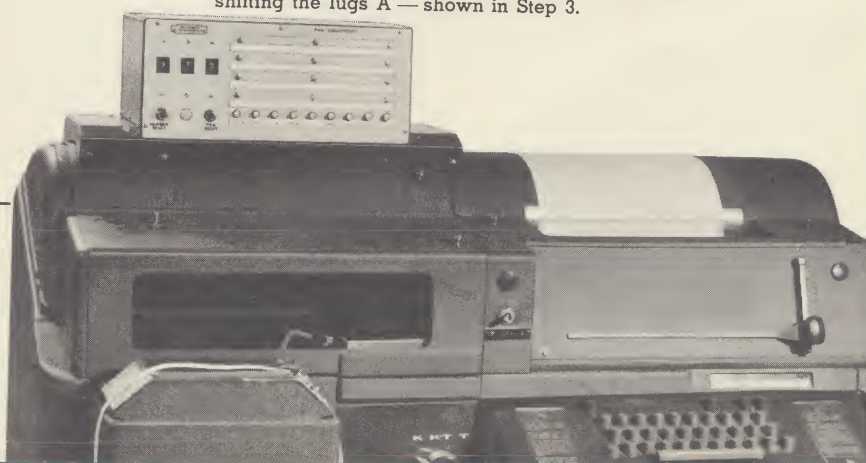


STEP 5

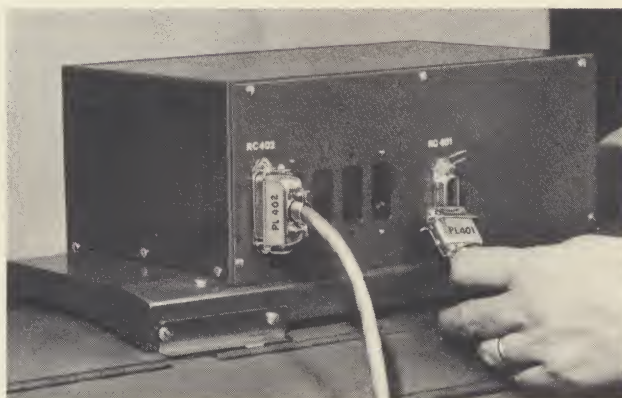
Picture shows the selector in position on top of the Teletypewriter. Be sure to place it so that the message paper will travel freely under the bottom. Any small adjustments necessary can be accomplished by shifting the lugs A — shown in Step 3.

STEP 6

As an alternative the Selector can also be located on the left side of the Teletypewriter if desired. Just follow the procedure as outlined in steps 3 and 4.



INSTALLATION INSTRUCTIONS PUSHBUTTON ADDRESSER



STEP 7

Connect "Selector" cable from the Cabinet to the Selector so that the end plug marked PL402 connects to receptacle RC402. If Numerical Sequence applique is included install cable plug end PL401 to mating receptacle RC401. Secure all plugs by closing locking rings from receptacles.

STEP 8

Cable end plug marked PL601, which is the "Interface" cable from the Cabinet, is plugged into the receptacle behind the removable front panel in the base of the Teletypewriter as shown. The interface on the Teletypewriter will have a dummy plug inserted—this should be removed to insert plug PL601 at the end of the "Interface" cable from the Cabinet. The Interface cable should be inserted through the large opening in the base of the Teletypewriter behind the front panel. Secure plug by tightening mounting screws. The dummy plug must be reinserted if the PBA is disconnected and the Model 28 is to be operated without the PBA. An alternate interface arrangement provides a short cable and receptacle assembly not mounted to the Teletype Cabinet. The interface cable from the Cabinet with plug PL601 in this case mates with the receptacle and should be connected as above with the mounting screws in plug PL601 tightened to mating receptacle.



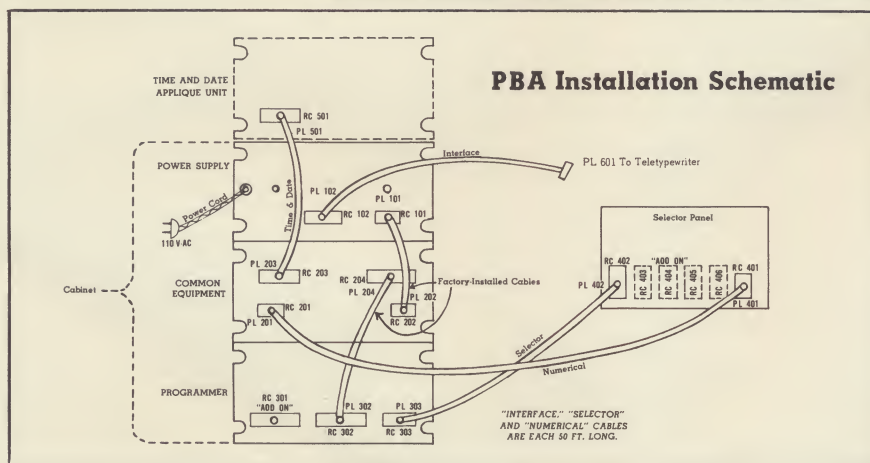
STEP 9

The power cord, which is 8 feet long, plugs into any 110 V. AC outlet. A special grounding adapter is included with the power supply cord and must not be removed before inserting plug into electric outlet unless your line is equipped for 3 prong plugs. If the adapter is used loosen screw holding AC outlet faceplate in place and insert wire clip end from adapter beneath screw head and re-tighten screw. Do not plug into power outlet until all hookups above are completed to have PBA ready for use.

After the equipment is all hooked up and the power cord is plugged into a 110 V. AC outlet, turn on the power switch on the front of the Cabinet. It is not necessary to turn the power switch off unless PBA equipment is being serviced. When used for tape preparation for subsequent transmission the switch on the common equipment chassis for "on-line" or "off-line" operation must remain in the "off-line" position.

Equipment ordered exclusively for "off line" tape preparation is factory modified to this mode and the "on-line"—"off-line" switch is eliminated.

Plug-in Character Chips for format addressing have been factory installed in the Programmer unit and can be read at the bottom section of the Cabinet. Chips for alternate address arrangements can be ordered separately. Bulletin 67-507 covers installation instructions for chips.



The Pioneer Electric and Research Corporation

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Programming the Pioneer PBA Pushbutton Addresser

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Programming the PBA

Programming the PBA is very simple and flexible. Code-generating shown in figure 1, are used as plug-in programmers and will genera

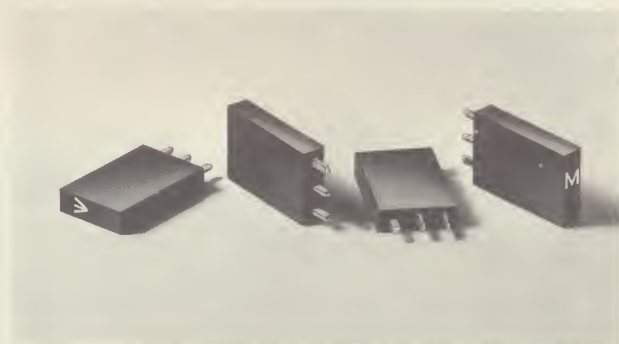
The chips, each of which represents one character of the standard 5-level Baudot code, are inserted, beginning from left to right, into the individual chip receptacles in consecutive order in the programmer (see figure 2). The chips are inserted in the same sequence as the wording of the address, as each chip produces its own particular TTY code pattern no matter into which socket position it is plugged. The programmer requires as many chips as there are characters forming the address.

ACCESS TO CHIP RECEPTACLES

The Programmer is mounted in the bottom of the Common Equipment (Power Supply) cabinet (see figure 3). Provision is made for up to 32 characters per line. Since there are nine lines, nine different fixed addresses are possible in one unit. Each separate line is activated entirely by a single pushbutton mounted on the Selector pictured in figure 5.

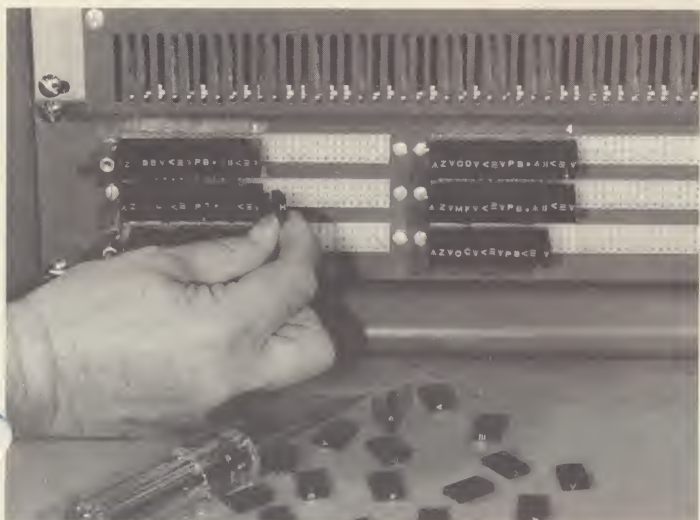
Access to the chip receptacles is made by removing the bottom cover, which is secured by four screws. (See figure 4).

By adding additional Programming units, the system can be increased to accommodate more address units in increments of nine. Appropriate control assemblies are also required to match increased program units.



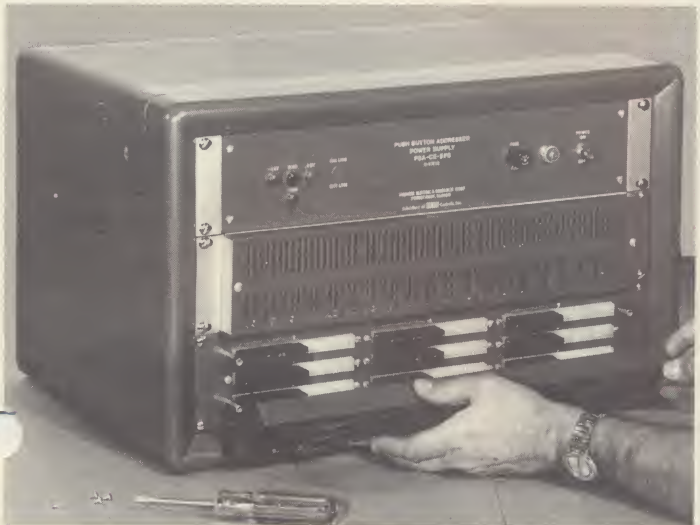
1 Chips used for programming the PBA are small logic blocks, each consisting of solid state circuitry encoded to its own imprinted "Baudot character."

devices called chips,
te any teletypewriter format or address desired.



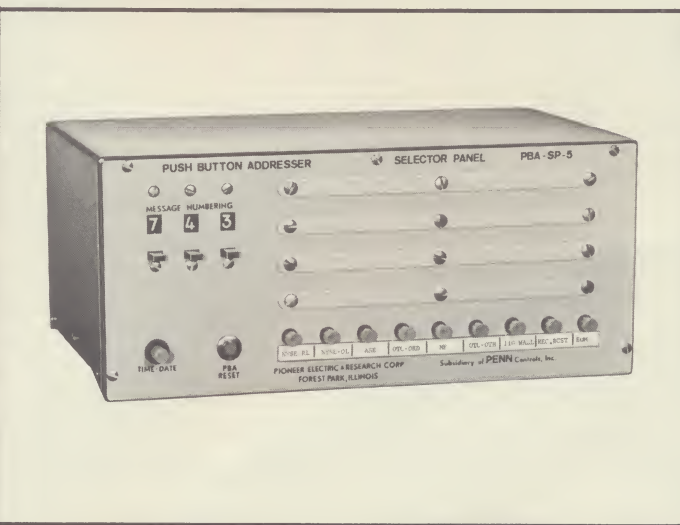
2 Inserting chips into the individual receptacles. Addresses can be easily changed by anyone. There are three contacts on the end of each chip, so arranged that it is impossible to insert a chip improperly without forcing, as the two upper contacts are parallel and the lower contact perpendicular to the top edge. The chips also have identifying letters printed thereon and read properly in upright position (Note cover photo).

4 Removing cover at bottom of Power Supply cabinet gives access to chip receptacles.



3 PBA Power Supply, which contains the Programmer. The Power Supply can be located in any convenient spot adjacent to the teletypewriter.

5 The Selector containing the pushbuttons is mounted on top of the teletypewriter. Provision is made for up to 45 selector pushbuttons.



Optional PBA Features Available to suit specific requirements

MESSAGE NUMBERING

The PBA is designed to accommodate several add-on features to suit specific requirements. Message numbering permits an inclusion into any line sequence of a sequential 3-digit number. This number is inserted on demand by using the character-generating chip which tells the PBA to switch to Message Numbering. The number then displayed in the three counter windows is inserted and then followed immediately by the rest of the programmed address. The message text does not contain any TTY control signal but prints out only the desired format with numbers included. After read out, the number wheels automatically index to the next higher number.

TIME AND DATE APPLIQUE

This feature is available on a "plug-in" basis to the basic PBA. It is activated by a pushbutton on the control panel and can be added to any or all possible address lines by first depressing the "time and date" button, then selecting the desired address. Time in 24-hour format and the

date will follow the selected address. If desired, any address button can be prewired at factory to include the "time and date" read out automatically.

ON-LINE/OFF-LINE OPERATION

The On-Line mode of operation permits the PBA to encode whatever is programmed directly into the communication circuit. When set by push-button action, control arrangements provide for automatic start of the address format upon receipt of a start code, which is then followed by tape transmission at the end of the PBA address. Complete short messages encoded into the PBA present another avenue of utilization.

Off-Line operation enables the operator to prepare tape addresses through the use of a reperforator and the PBA on a dummy loop. The TTY keyboard, also in series with this loop, permits the variable portions of the message to be punched into the tape.

While the programming has been described primarily for Message Addressing, it may also be used for short, fixed messages.

PRELIMINARY

STOP START OPTION
(Preliminary)

The "Stop-Start" option appears on a program unit as a chip module of standard size; on the common equipment unit it appears as a piggy-back board mounted on printed circuit board 13 (PC-13). This board carries all the additional electronics required for the "Stop-Start" option. Operation is by means of a push-button switch mounted on the selector panel.

The purpose of the "Stop-Start" option is to stop the PBA at a desired position when it is running through its program, in order to introduce variable information, at that point in the program, by means of the keyboard. This is accomplished by inserting a character ("Stop" Chip) at the desired position in the program unit.

When the "Stop-Start" option is used in a particular fixed format a program unit will look as follows:

A B C D E F "Stop Chip" G H I J K L M N

On tape the above format would look like this.

A B C D E F	G H I J K L M N
Fixed	Variable	Fixed

A multiple number of "Stop" chips may be used in anyone program, the limit being of course, the overall character transmitting capacity of the system.

In operation, the "Stop-Start" option works as follows; the program is setup, with the "Stop" chip in the desired position. The operator pushes the proper push-button on the selector panel for the desired fixed program. The characters are read out one by one until the "Stop" chip is accessed by the readout system. At this point readout stops and the operator inserts the variable message by means of the keyboard. The operator then depresses the "Stop-Start" pushbutton on the selector panel; this action results in the completion of read out of the fixed format message address. The machine automatically resets, and is then ready for the next message.

END OF MESSAGE OPTION

(Preliminary)

The standard procedure for end of message or transmission is the sequence "Figs H Letters" followed by a series of repeated non typing characters such as "Letters". This sequence is recognized by the receiving station as a signal to shut down as in the case of an outlying station or proceed with the interregation of the next succeeding station on the circuit. The repeated character following the "Figs H Letters" perforated in the tape permits the tape to be fed out of the perforating head and provides two benefits: (1) The operator now can see all of the message information on the tape which if not included would be hidden by the machine, and (2) in the case of non torn tape operation a certain amount of tape must be indexed after end of message to permit free operation of the Transmitter Distributor.

The "End of Message" option circuitry is mounted on a standard Pioneer modular printed circuit board which plugs into slot number twenty of the common equipment unit of the basic PBA systems. The common equipment unit is factory wired to accomodate all input and output requirements of the "EOM" option. Operation is by means of pushbutton switch labeled EOM and mounted on the selector panel.

The number of repeated TTY characters that may be transmitted varies from approximately 20 to 70, and is set by the adjustment of the trimit pot which is mounted on the PC board. The character sequence is preprogrammed on the printed circuit board.

For example, a typical "EOM format would appear on tape as follows:

A # ↓↓↓↓↓↓↓↓.....↓ 70th

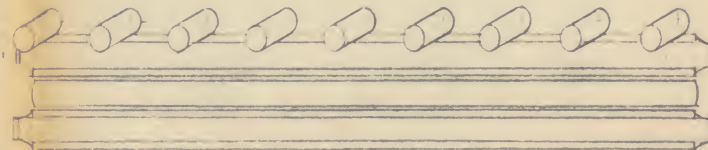
(The symbol # is the upper case of TTY character H)

In operation, the operator selects the proper address by means of the pushbuttons on the selector panel of the PBA. The variable message is then typed in and the EOM pushbutton depressed thereby inserting the "End of Message" sequence. The PBA then automatically resets, and is ready for the next address.

PUSH BUTTON ADDRESSER

MESSAGE NUMBERING

2 3 5



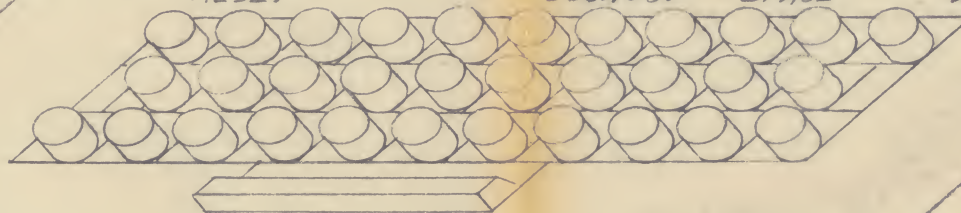
PBA
RESET

EOM

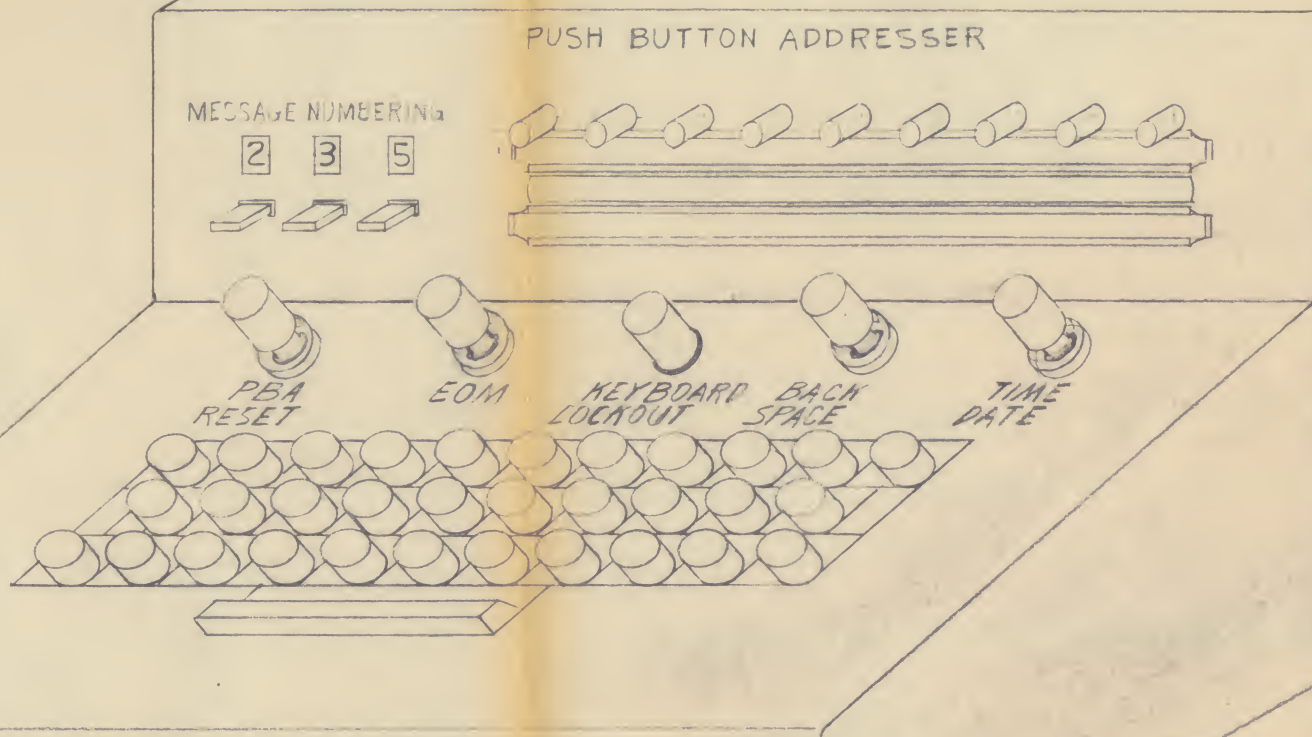
KEYBOARD
LOCKOUT

BACK
SPACE

TIME
DATE



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PRELIMINARY

PBA ELECTRONIC KEYBOARD

B67-522

FEB 2 1967